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JAPANESE [JP, 06-035333, Y]

CLAIMS DETAILED DESCRIPTION TECHNICAL FIELD EFFECT OF THE
INVENTION TECHNICAL PROBLEM DESCRIPTION OF DRAWINGS DRAWINGS

[Translation done.]

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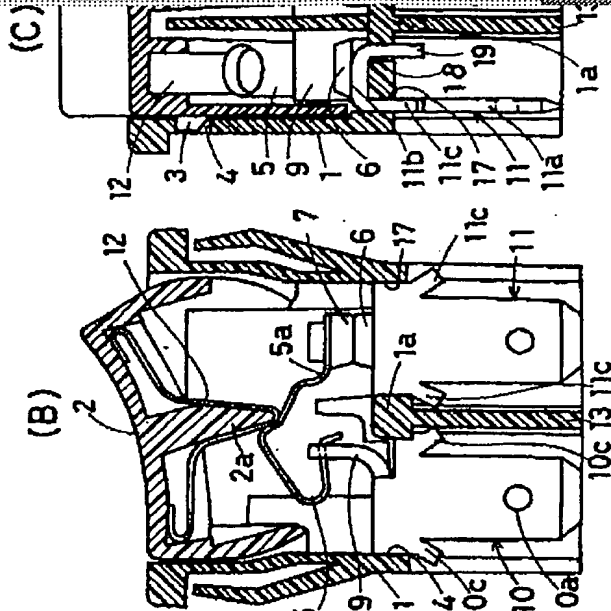
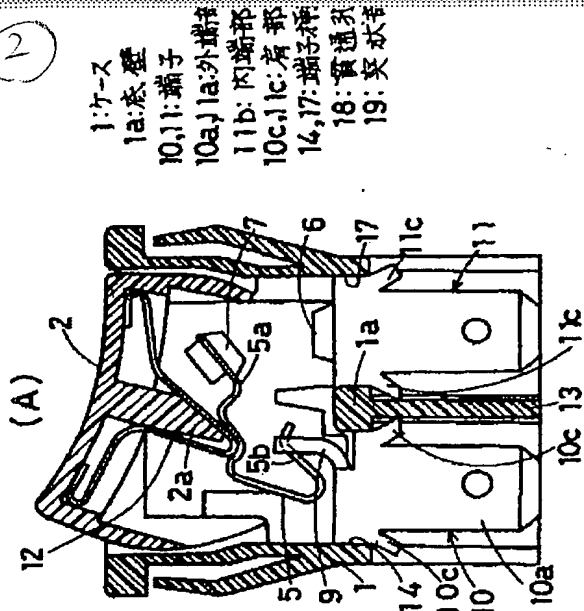
CLAIMS

[Utility model registration claim]
[Claim 1] It has a terminal which consists of a toe piece by
which the manifold type was carried out to the above-
mentioned heel piece in the condition of meeting an inside of
a heel piece inserted in a terminal insertion hole formed in
a bottom wall of a case, and this terminal insertion hole
from the interior, and the above-mentioned bottom wall. While
protruding ***** at a tip of a toe piece in the above-
mentioned terminal, inserting this ***** in a through tube
formed in the above-mentioned bottom wall, bending it and
making external surface of the above-mentioned bottom wall
stop this bending section In terminal fixed structure of a
small electrical machinery and apparatus which comes to carry
out caulking immobilization of the both-shoulders section
formed in the end face section of the above-mentioned heel
piece, respectively Terminal fixed structure of a small

BACK NEXT
MENU SEARCH
HELP

1. JP, 06-035333, Y(1994)

Drawing selection [Drawing 1]



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DETAILED DESCRIPTION

[Detailed explanation of a design]

<A field of a design> This design is related with terminal fixed structure of a small electrical machinery and apparatus applied to a switch, a relay, etc.
 <The conventional technology and its trouble> There are some which fixed to bottom wall 101a of switch casing 101 the 1st terminal 104 for movable piece support which supported a movable piece 103 driven with a manual operation button 102 pivoted in switch casing 101 as a conventional, for example, seesaw, -type switch as shown in drawing 8 (A) and (B), and the 2nd terminal 105 which attaches and detaches to the above-mentioned movable piece 103.
 Heel pieces 104a and 105a which the above-mentioned terminal 104, 105 is inserted in a terminal insertion hole 106, 107 formed in the above-mentioned bottom wall 101a, respectively, respectively, and project outside, It is what has toe pieces 104b and 105b by which the manifold type was carried out to the above-mentioned heel pieces 104a and 105a, respectively so that an inside of the above-mentioned bottom wall 101a might be met. In the former It is fixing to switch casing 101 by closing the both-shoulders sections 104c and 104c of the end face section of each heel pieces 104a and 105a in the above-mentioned both-ends child 104, 105, and 105c and 105c.

Namely, each heel pieces 104a and 105a in a both-ends child 104, 105 are inserted in a terminal insertion hole 106, 107 as shown in drawing 9 (A) from the interior, respectively. If punch M for caulking is driven in as shown in drawing 9 (B) to the both-shoulders sections 104c and 104c of the above-mentioned heel pieces 104a and 105a, and 105c and 105c A caulking piece and the intermediary above-mentioned both-ends child 104, 105 are fixed for each above-mentioned shoulders 104c and 104c, and 105c and 105c.

However, a possibility of this fixed structure not being enough as fixed reinforcement because of two-point immobilization to which a both-ends child 104, 105 closes shoulders 104c and 104c of each heel pieces 104a and 105a, and 105c and 105c, and producing shakiness according to external force a longitudinal direction and from **** is *****.

Moreover, although there is also a method of making carry out twist deformation of each heel pieces 104a and 105a of a both-ends child 104, 105 on cutting pliers P etc. as are shown in drawing 10 (A) apart from the above, and shown in drawing 10 (B), applying adhesives to a root of heel pieces 104a and 105a, and fixing to it further In order to be hard to use this thing since a gap arises in a terminal array, and to use adhesives for it moreover, it has the fault from which immobilization becomes inefficient.

As conventionally shown in drawing 11, to furthermore, a terminal insertion hole 107 formed in bottom wall 101a of a case Insert heel piece 105a of a terminal 105 from the interior, and toe piece 105b by which the manifold type was carried out to the above-mentioned heel piece 105a is made to meet an inside of the above-mentioned bottom wall 101a. ***** 105c is protruded at a tip of toe piece 105b in the above-mentioned terminal 105. While inserting this ***** 105c in a through tube 108 formed in the above-mentioned bottom wall 101a, bending it and making external surface of the above-mentioned bottom wall 101a stop 105d of this bending section What carried out caulking immobilization of the both-shoulders sections 105c and 105c formed in the end face section of the above-mentioned heel piece 105a, respectively is known (refer to JP, 56-110531, U).

By the way, since according to the above-mentioned configuration it faced bending ***** 105c

which protruded at a tip of the above-mentioned toe piece 105b and 105d of this bending section is bent in the direction of heel piece 105a of a terminal 105, the angular moment always acts on the above-mentioned terminal 105 in the direction of the circumference of a clock of illustration.

therefore, both-shoulders section 105c formed in the end face section of the above-mentioned heel piece 105a -- you 105c make it go away, internal stress always acts on the section, slack occurs between the above-mentioned terminal insertion holes 107, between insides of bottom wall 101a, a gap occurs and the above-mentioned toe piece 105b inclines.

Therefore, about terminal fixed structure of the above-mentioned configuration, when it applies to terminal structure of a stationary contact 109, the above-mentioned stationary contact 109 inclines and it becomes the factor of a poor contact or contact joining per piece of a traveling contact 110 which attaches and detaches to this.

This has the almost same technical problem, even when terminal fixed structure of the above-mentioned configuration is applied to terminal structure which supports a movable piece 103 of a traveling contact 110.

The <purpose of a design> This design was made in order to cancel the above-mentioned technical problem, and a manufacture assembly is easy and it aims at offering terminal fixed structure of a long lasting small electrical machinery and apparatus without fear of a poor contact or contact joining.

<A configuration of a design and an effect> terminal fixed structure of a small electrical machinery and apparatus by this design Consist a predetermined gap at a tip of a toe piece in a flat terminal in alignment with an inside of a case bottom wall crosswise, make the above-mentioned toe piece and one pair of ***** cross at right angles, and it protrudes. It inserts in each corresponding through tube formed in the above-mentioned bottom wall, each above-mentioned ***** is bent to a method of the inside of the cross direction of a toe piece, and it is characterized by constituting so that external surface of the above-mentioned bottom wall may be made to stop this bending section.

According to the above-mentioned configuration, each ***** is bent to a method of the inside of the cross direction of a toe piece, and since it constituted so that external surface of the above-mentioned bottom wall might be made to stop this bending section, there is no fear of generating of the angular moment in the above-mentioned terminal.

Therefore, internal stress can always act on the caulking section of the both-shoulders section formed in the end face section of the above-mentioned outer edge piece, it can prevent effectively that slack occurs and inclines between the above-mentioned terminal insertion holes, there is no possibility that a poor contact and contact joining may occur per piece of a contact, and it is long lasting.

Moreover, according to the above-mentioned configuration, since make the above-mentioned toe piece and one pair of ***** cross at right angles, and it protrudes, and it inserts in each corresponding through tube formed in the above-mentioned bottom wall, each above-mentioned ***** is bent to a method of the inside of the cross direction of a toe piece and external surface of the above-mentioned bottom wall is made to stop this bending section, a manufacture assembly is easy.

<Explanation of an example> Hereafter, although an example of this design was used as a drawing, intermediary explanation is given.

Drawing 1 (A), (B), and (C) show an example which applied terminal fixed structure of a small electrical machinery and apparatus concerning this design to a seesaw type switch, respectively.

In this drawing, 1 is the cube type switch casing of upper wall disconnection which consists of synthetic resin etc., and it is set up rockable by fitting a pin 3 formed in central leg 2a into a pin hole 4 formed in a opening edge of the above-mentioned case 1 while a manual operation button 2 of an abbreviation cross-section easy form is inserted in an upper limit opening.

In the above-mentioned switch casing 1, one pair of conductive movable pieces 5 and 5 of a typeface to abbreviation driven by the above-mentioned central leg 2a are arranged, and a traveling contact 7 which attaches and detaches to a stationary contact 6 has fixed to point 5a of each movable piece 5.

One pair of 1st terminals 10 and 10 equipped with a retaining wall 9 in which an engagement slot 8 which supports pivotably each end face section 5b of the above-mentioned movable pieces 5 and 5 as shown in drawing 2 was formed, and the 2nd terminal 11 and 11 with the above-mentioned stationary contact 6 of one pair of ** are being fixed to bottom wall 1a of the above-mentioned switch casing 1.

If the above-mentioned switch has a manual operation button 2 in a location shown in drawing 1 (A) If a location which it is set as an open position which a movable piece 5 displaced to a counterclockwise rotation, and a traveling contact 7 and a stationary contact 6 will be in an open condition, and shows the above-mentioned manual operation button 2 in drawing 1 (B) is reversed In order that a movable piece 5 may displace to a clockwise rotation by using an engagement slot 8 of end face section 5b as the supporting point, a traveling contact 7 and a stationary contact 6 will be in a closing condition. In addition, a metal plate with which 12 was arranged inside the above-mentioned manual operation button 2, and 13 are the terminal septa which protruded on external surface of bottom wall 1a of the above-mentioned switch casing 1.

Below, fixed structure of the 1st and 2nd terminals 10 and 11 of the above is explained. The 1st terminal 10 consists of toe piece 10b of the shape of a horizontal really formed in a end face of perpendicular-like heel piece 10a and this heel piece 10a. The above-mentioned heel piece 10a is inserted in the 1st terminal insertion hole 14 (drawing 3) formed in bottom wall 1a of the above-mentioned switch casing 1 from the inside, and shoulders 10c and 10c for caulking are formed in the end face section. The above-mentioned toe piece 10b is arranged so that an inside of the above-mentioned bottom wall 1a may be met, said retaining wall 9 is set up by side edge, and ***** 16 for caulking which penetrates the 1st through tube 15 (drawing 3) formed in the above-mentioned bottom wall 1a, for example, one protruding piece, is formed at a tip.

On the other hand, the 2nd terminal 11 consists of toe piece 11b of the shape of a horizontal really formed in a end face of perpendicular-like heel piece 11a and this heel piece 11a. The above-mentioned heel piece 11a is inserted in the 2nd terminal insertion hole 17 formed in bottom wall 1a of the above-mentioned switch casing 1 from the inside, and shoulders 11c and 11c for caulking are formed in the end face section. The above-mentioned toe piece 11b was arranged so that the above-mentioned bottom wall 1a might be met, said stationary contact 6 has fixed to the principal plane, and ***** 19 and 19 for caulking which penetrates one pair of 2nd through tubes 18 and 18 formed in the above-mentioned bottom wall 1a, for example, one pair of projection pieces, is formed in tip both sides.

As shown in drawing 4 (A), bottom wall 1a of switch casing 1 is equipped with the 1st and 2nd terminals 10 and 11 of the above. By driving in punch [like] M for caulking shown in drawing 4 (B) to the both-shoulders sections 10c and 10c in heel pieces 10a and 11a of each terminals 10 and 11, and 11c and 11c Each above-mentioned shoulders 10c and 10c, and 11c and 11c become the caulking piece [like] which is drawing 4 (C).

Moreover, this protruding piece 16 turns into a caulking piece [like] which is drawing 5 (C) by driving into two places punch [like] N for caulking which is drawing 5 (B) to a tip of a protruding piece 16 which was formed in a tip side of toe piece 10b of the 1st terminal 10, and penetrated the 1st through tube 15 as shown in drawing 5 (A). What is necessary is for ***** of a placing part of punch N to a tip of this protruding piece 16 to be also good at one place, and just to choose the number of those placing parts as arbitration.

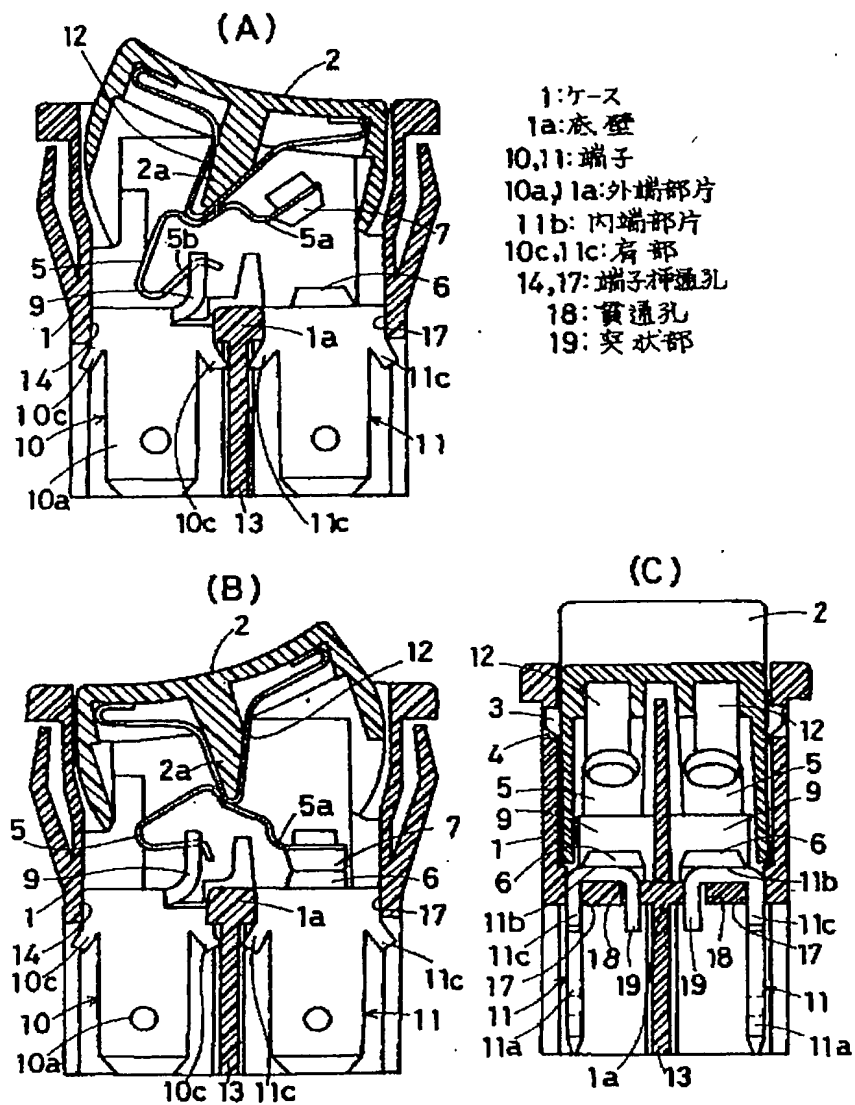
By driving in punch [like] W for caulking which is drawing 6 (B) to one pair of projection pieces 19 and 19 which it was formed at a tip of toe piece 11b of the 2nd terminal 11, and were penetrated to one pair of 2nd through tubes 18 and 18 further again as shown in drawing 6 (A) Both projection pieces 19 and 19 turn into a sinusoid caulking piece, as shown in drawing 6 (C).

According to the above-mentioned configuration, as shown in drawing 6 (C), each projection pieces 19 and 19 of a terminal 11 are bent to a way among the cross direction A of toe piece 11b. Since it constituted so that external surface of the above-mentioned bottom wall 1a might be made to stop these bending sections 19a and 19a, there is no fear of generating of the angular moment of the circumference of a clock shown in drawing 6 (D) (the direction of arrow head B) in the above-mentioned terminal 11 like before.

Therefore, 11c Make it go away and internal stress does not always act [both-shoulders section 11c formed in the end face section of the above-mentioned heel piece 11a, and] on the section. It prevents generating of a poor contact or contact joining and is long lasting, without being able to prevent effectively that slack occurs and inclines between the above-mentioned terminal insertion holes 17, and per piece occurring at contacts 6 and 7, as shown in drawing 6 (E).

Moreover, according to the above-mentioned configuration, make the above-mentioned toe piece 11b and one pair of projection pieces 19 and 19 cross at right angles, and it protrudes. Since it inserts in each corresponding through tubes 18 and 18 formed in the above-mentioned bottom wall 1a, each above-mentioned projection pieces 19 and 19 are bent to a method of the inside of the cross direction of toe piece 11b and external surface of the above-mentioned bottom wall 1a is made to stop these bending sections 19a and 19a, a manufacture assembly is easy. In addition, in the above-mentioned example, also although it explains and excels about terminal fixed structure which formed one pair of projection pieces 19 and 19 in a terminal 11 for stationary-contact 6, terminal fixed structure of the above-mentioned terminal 11 may be applied to terminal fixed structure which supports a movable piece 5 of a traveling contact 7.

[Translation done.]



[Translation done.]